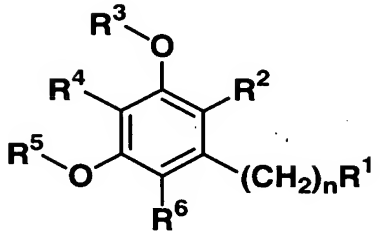
CLAIMS

1. An Hsp90 family protein inhibitor comprising, as an active ingredient, a benzene derivative represented by general formula (I):



(I)

{wherein n represents an integer of 0 to 10;

R^1 represents a hydrogen atom, hydroxy, cyano, carboxy, nitro, halogen, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkenyl, substituted or unsubstituted lower alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted lower alkoxycarbonyl, substituted or unsubstituted aroyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted heterocyclic-alkyl, substituted or unsubstituted aryl, substituted or unsubstituted aralkyl, substituted or unsubstituted arylsulfonyl, a substituted or unsubstituted heterocyclic group, $-CONR^7R^8$ (wherein R^7 and R^8, which may be the same or different, each represent a hydrogen atom, substituted or unsubstituted lower alkyl, substituted or unsubstituted cycloalkyl, substituted or

unsubstituted lower alkanoyl, substituted or unsubstituted aryl, a substituted or unsubstituted heterocyclic group, substituted or unsubstituted aralkyl, substituted or unsubstituted heterocyclic-alkyl or substituted or unsubstituted aroyl, or R^7 and R^8 form a substituted or unsubstituted heterocyclic group together with the adjacent nitrogen atom), $-NR^9R^{10}$ [wherein R^9 and R^{10}, which may be the same or different, each represent a hydrogen atom, substituted or unsubstituted lower alkylsulfonyl, substituted or unsubstituted lower alkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted aryl, a substituted or unsubstituted heterocyclic group, substituted or unsubstituted aralkyl, substituted or unsubstituted heterocyclic-alkyl, substituted or unsubstituted aroyl, or $-CONR^{11}R^{12}$ (wherein R^{11} and R^{12} have the same meanings as the above R^7 and R^8, respectively), or R^9 and R^{10} form a substituted or unsubstituted heterocyclic group together with the adjacent nitrogen atom], or $-OR^{13}$ (wherein R^{13} represents substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkenyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted aryl, a substituted or unsubstituted heterocyclic group, substituted or unsubstituted aralkyl or substituted or unsubstituted heterocyclic-alkyl);

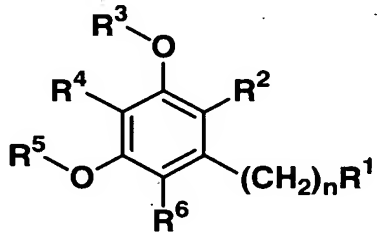
R^2 represents substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkenyl, substituted or unsubstituted lower alkynyl, substituted or unsubstituted aryl or a substituted or unsubstituted heterocyclic group (excluding substituted or unsubstituted pyrazolyl);

R^3 and R^5, which may be the same or different, each represent a hydrogen atom, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkenyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted lower alkylsulfonyl, substituted or unsubstituted arylsulfonyl, carbamoyl, sulfamoyl, substituted or unsubstituted lower alkylaminocarbonyl, substituted or unsubstituted di-lower alkylaminocarbonyl, substituted or unsubstituted lower alkoxycarbonyl, substituted or unsubstituted heterocyclic-carbonyl, substituted or unsubstituted aralkyl or substituted or unsubstituted aroyl;

R^4 and R^6, which may be the same or different, each represent a hydrogen atom, hydroxy, halogen, cyano, nitro, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkenyl, substituted or unsubstituted lower alkynyl, substituted or unsubstituted lower alkoxy, substituted or unsubstituted cycloalkyl, amino, lower alkylamino, di-lower alkylamino, carboxy, substituted or

unsubstituted lower alkoxycarbonyl, substituted or unsubstituted aryloxy, substituted or unsubstituted aryl, a substituted or unsubstituted heterocyclic group (excluding substituted or unsubstituted pyrazolyl), substituted or unsubstituted lower alkanoyl, substituted or unsubstituted aralkyl, or substituted or unsubstituted heterocyclic-alkyl}, or a prodrug thereof, or a pharmaceutically acceptable salt thereof.

2. An Hsp90 family protein inhibitor comprising, as an active ingredient, a benzene derivative represented by general formula (I):



(I)

(wherein n, R^1, R^2, R^3, R^4, R^5 and R^6 have the same meanings as those defined above, respectively) or a pharmaceutically acceptable salt thereof.

3. The Hsp90 family protein inhibitor according to claim 1 or 2, wherein R^1 is a hydrogen atom, hydroxy, cyano, carboxy, nitro, halogen, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkynyl, substituted or unsubstituted lower alkoxy, substituted or unsubstituted cycloalkyl, substituted or unsubstituted

lower alkoxycarbonyl, substituted or unsubstituted lower alkanoyloxy, substituted or unsubstituted heterocyclic-alkyl, substituted or unsubstituted aryl, substituted or unsubstituted arylsulfonyl, -$CONR^7R^8$ (wherein R^7 and R^8 have the same meanings as those defined above, respectively) or -NR^9R^{10} (wherein R^9 and R^{10} have the same meanings as those defined above, respectively).

4. The Hsp90 family protein inhibitor according to claim 1 or 2, wherein R^1 is substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkynyl, substituted or unsubstituted lower alkoxy, substituted or unsubstituted cycloalkyl, substituted or unsubstituted lower alkoxycarbonyl, substituted or unsubstituted heterocyclic-alkyl, substituted or unsubstituted aryl, -$CONR^7R^8$ (wherein R^7 and R^8 have the same meanings as those defined above, respectively), or -NR^9R^{10} (wherein R^9 and R^{10} have the same meanings as those defined above, respectively).

5. The Hsp90 family protein inhibitor according to any of claims 1 to 4, wherein R^2 is substituted or unsubstituted aryl, or a substituted or unsubstituted aromatic heterocyclic group.

6. The Hsp90 family protein inhibitor according to any of claims 1 to 4, wherein R^2 is substituted or unsubstituted aryl.

7. The Hsp90 family protein inhibitor according to any of claims 1 to 4, wherein R^2 is substituted or unsubstituted phenyl.

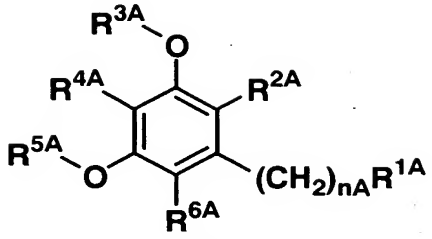
8. The Hsp90 family protein inhibitor according to any of claims 1 to 4, wherein R^2 is substituted or unsubstituted furyl.

9. The Hsp90 family protein inhibitor according to any of claims 1 to 8, wherein R^4 is a hydrogen atom, hydroxy, or halogen.

10. The Hsp90 family protein inhibitor according to any of claims 1 to 9, wherein R^3 and R^5, which may be the same or different, each represent a hydrogen atom, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkenyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted aroyl, substituted or unsubstituted lower alkylaminocarbonyl, substituted or unsubstituted di-lower alkylaminocarbonyl, substituted or unsubstituted lower alkoxycarbonyl, or substituted or unsubstituted heterocyclic-carbonyl.

11. The Hsp90 family protein inhibitor according to any of claims 1 to 8, wherein R^3, R^4 and R^5 are hydrogen atoms.

12. A benzene derivative represented by general formula (IA):



(IA)

[wherein R^{2A} represents substituted or unsubstituted aryl, or a substituted or unsubstituted aromatic heterocyclic group (excluding substituted or unsubstituted pyrazolyl);

R^{3A} and R^{5A}, which may be the same or different, each represent a hydrogen atom, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkenyl, substituted or unsubstituted lower alkanoyl, carbamoyl, sulfamoyl, substituted or unsubstituted lower alkylsulfonyl, substituted or unsubstituted lower alkylaminocarbonyl, substituted or unsubstituted di-lower alkylaminocarbonyl, substituted or unsubstituted lower alkoxycarbonyl, substituted or unsubstituted heterocyclic-carbonyl, substituted or unsubstituted aralkyl, or substituted or unsubstituted aroyl;

R^{4A} represents a hydrogen atom, hydroxy, or halogen;

nA represents an integer of 0 to 5;

provided that;

(1) when nA is 0,

then R^{1A} is a hydrogen atom, methyl, hydroxy, methoxy, carboxy, methoxycarbonyl, carbamoyl, $-CONHCH_3$, $-CON(CH_3)_2$,

-$CONHCH_2Ph$ (wherein Ph represents phenyl), -$CH(OCH_3)Ph$ (wherein Ph has the same meaning as that defined above), propionyl, benzoyl, dioxolanyl, substituted or unsubstituted vinyl, or substituted or unsubstituted prop-1-en-1-yl;

and when R^{1A} is a hydrogen atom,

then R^{6A} is substituted or unsubstituted lower alkyl;

when R^{1A} is methyl, hydroxy, methoxy, carboxy, methoxycarbonyl, carbamoyl, -$CONHCH_3$, -$CON(CH_3)_2$, -$CONHCH_2Ph$ (wherein Ph has the same meaning as that defined above), propionyl, benzoyl, dioxolanyl, substituted or unsubstituted vinyl, or substituted or unsubstituted prop-1-en-1-yl,

then R^{6A} is halogen;

(2) when nA is an integer of 1 to 5,

then R^{1A} is hydroxy, cyano, carboxy, halogen, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkenyl, substituted or unsubstituted lower alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted lower alkoxycarbonyl, substituted or unsubstituted aryl, substituted or unsubstituted aroyl, substituted or unsubstituted heterocyclic-alkyl, substituted or unsubstituted aralkyl, substituted or unsubstituted arylsulfonyl, a substituted or unsubstituted heterocyclic

group, -$CONR^7R^8$ (wherein R^7 and R^8 have the same meanings as those defined above, respectively), -NR^9R^{10} (wherein R^9 and R^{10} have the same meanings as those defined above, respectively), or -OR^{13} (wherein R^{13} has the same meaning as that defined above), R^{6A} is a hydrogen atom, halogen, cyano, nitro, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkenyl, substituted or unsubstituted lower alkynyl, substituted or unsubstituted lower alkoxy, substituted or unsubstituted cycloalkyl, substituted or unsubstituted lower alkanoyl, amino, lower alkylamino, di-lower alkylamino, carboxy, substituted or unsubstituted lower alkoxycarbonyl, substituted or unsubstituted aryloxy, substituted or unsubstituted aryl, a substituted or unsubstituted heterocyclic group (excluding substituted or unsubstituted pyrazolyl), substituted or unsubstituted aralkyl, or substituted or unsubstituted heterocyclic-alkyl;

and provided that;

(i) when R^{3A} and R^{5A} are isopropyl,

then R^{6A} is not a hydrogen atom;

(ii) when R^{3A} and R^{5A} are methyl,

then R^{6A} is not the group selected from a hydrogen atom, bromo, ethyl, 1-hydroxyethyl, 1-(dimethylamino)ethyl, vinyl and carboxy;

(iii) when R^{4A} and R^{6A} are hydrogen atoms, and when R^{3A} and

R^{5A} are the same and are tert-butyl or benzyl,

then $-(CH_2)_{nA}R^{1A}$ is not the group selected from hydroxymethyl and 2-chloroallyl;

(iv) when R^{4A} and R^{6A} are hydrogen atoms, and when R^{3A} is benzyl or acetyl and R^{5A} is methyl,

or when R^{3A}, R^{4A} and R^{6A} are hydrogen atoms, and when R^{5A} is methyl,

then $-(CH_2)_{nA}R^{1A}$ is not the group selected from 2-(acetylamino)propyl and 2-(substituted lower alkanoylamino)propyl;

(v) when R^{3A}, R^{4A} and R^{5A} are hydrogen atoms, and when R^{6A} is carboxy, or when R^{4A}, R^{5A} and R^{6A} are hydrogen atoms, and when R^{3A} is methyl,

then $-(CH_2)_{nA}R^{1A}$ is not n-pentyl;

(vi) when R^{3A} and R^{4A} are hydrogen atoms, R^{5A} is methyl, and R^{6A} is ethyl,

then $-(CH_2)_{nA}R^{1A}$ is not n-propyl;

(vii) when R^{3A} is methyl, R^{4A} and R^{6A} are hydrogen atoms, and R^{5A} is 4-methoxybenzyl,

then $-(CH_2)_{nA}R^{1A}$ is not the group selected from $-(CH_2)_3CH=CH_2$ and $-(CH_2)_5CH=CH_2$;

(viii) when R^{3A}, R^{4A}, R^{5A} and R^{6A} are hydrogen atoms, and when $-(CH_2)_{nA}R^{1A}$ is

(a) n-pentyl,

then R^{2A} is not 2,4-dihydroxy-6-pentylphenyl,

(b) n-hexyl,

then R^{2A} is not the group selected from 4,6-di(substituted phenyl)triazol-2-yl and 3,6-di(substituted phenyl)-1,2,4-triazin-5-yl,

(c) n-heptyl,

then R^{2A} is not substituted triazolyl;

(ix) when R^{3A} is a hydrogen atom or acetyl, R^{5A} is methyl, and R^{4A} and R^{6A} are hydrogen atoms, and when $-(CH_2)_{nA}R^{1A}$ is ethyl or n-propyl,

then R^{2A} is not 2-aminopyrimidin-4-yl having a substituent at the 5-position thereof,

(x) when R^{3A}, R^{4A} and R^{5A} are hydrogen atoms, R^{6A} is methoxy, and $-(CH_2)_{nA}R^{1A}$ is 3-methylbut-2-en-1-yl, or 3-hydroxy-3-methylbutyl,

then R^{2A} is not the group selected from 7-hydroxy-4-oxo-4H-1-benzopyran-3-yl and 6-methoxy-2,2-dimethyl-2H-1-benzopyran-8-yl],

or a pharmaceutically acceptable salt thereof.

13. The benzene derivative according to claim 12, wherein R^{2A} is substituted or unsubstituted phenyl, or a pharmaceutically acceptable salt thereof.

14. The benzene derivative according to claim 12, wherein R^{2A} is substituted or unsubstituted furyl, or a pharmaceutically acceptable salt thereof.

15. The benzene derivative according to any of

claims 12 to 14, wherein R^{3A} and R^{5A}, which may be the same or different, each represent a hydrogen atom, substituted or unsubstituted lower alkanoyl, substituted or unsubstituted aroyl, substituted or unsubstituted lower alkenyl, substituted or unsubstituted lower alkylaminocarbonyl, substituted or unsubstituted di-lower alkylaminocarbonyl, substituted or unsubstituted lower alkoxycarbonyl, or substituted or unsubstituted heterocyclic-carbonyl, or a pharmaceutically acceptable salt thereof.

16. The benzene derivative according to any of claims 12 to 14, wherein R^{3A}, R^{4A} and R^{5A} are hydrogen atoms, or a pharmaceutically acceptable salt thereof.

17. The benzene derivative according to any of claims 12 to 14, wherein nA is an integer of 1 to 5, or a pharmaceutically acceptable salt thereof.

18. A pharmaceutical composition comprising, as an active ingredient, the benzene derivative according to any of claims 12 to 17 or a pharmaceutically acceptable salt thereof.

19. An Hsp90 family protein inhibitor comprising, as an active ingredient, the benzene derivative according to any of claims 12 to 17 or a pharmaceutically acceptable salt thereof.

20. A therapeutic agent for a disease associated

with an Hsp90 family protein or a protein to which an Hsp90 family protein is bound (Hsp90 client protein) comprising, as an active ingredient, the benzene derivative according to any of claims 12 to 17 or a pharmaceutically acceptable salt thereof.

21. An anti-tumor agent comprising, as an active ingredient, the benzene derivative according to any of claims 12 to 17 or a pharmaceutically acceptable salt thereof.

22. A pharmaceutical composition comprising, as an active ingredient, the benzene derivative according to any of claims 12 to 17 or a prodrug thereof, or a pharmaceutically acceptable salt thereof.

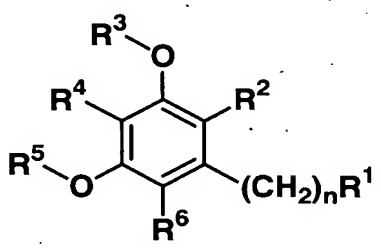
23. An Hsp90 family protein inhibitor comprising, as an active ingredient, the benzene derivative according to any of claims 12 to 17 or a prodrug thereof, or a pharmaceutically acceptable salt thereof.

24. A therapeutic agent for a disease associated with an Hsp90 family protein or a protein to which an Hsp90 family protein is bound (Hsp90 client protein) comprising, as an active ingredient, the benzene derivative according to any of claims 12 to 17 or a prodrug thereof, or a pharmaceutically acceptable salt thereof.

25. An anti-tumor agent comprising, as an active ingredient, the benzene derivative according to any of

claims 12 to 17 or a prodrug thereof, or a pharmaceutically acceptable salt thereof.

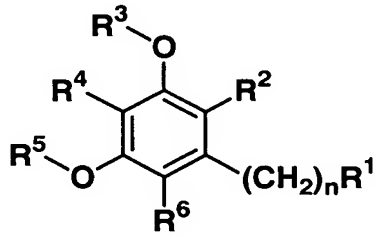
26. A method of inhibiting a heat shock protein 90 (Hsp90) family protein, which comprises administering an effective amount of a benzene derivative represented by general formula (I):



(I)

(wherein n, R^1, R^2, R^3, R^4, R^5 and R^6 have the same meanings as those defined above, respectively) or a prodrug thereof, or a pharmaceutically acceptable salt thereof.

27. A method of inhibiting a heat shock protein 90 (Hsp90) family protein, which comprises administering an effective amount of a benzene derivative represented by general formula (I):



(I)

(wherein n, R^1, R^2, R^3, R^4, R^5 and R^6 have the same meanings as those defined above, respectively) or a pharmaceutically

acceptable salt thereof.

28. A method of inhibiting an Hsp90 family protein, which comprises administering an effective amount of the benzene derivative according to any of claims 12 to 17 or a prodrug thereof, or a pharmaceutically acceptable salt thereof.

29. A method of inhibiting an Hsp90 family protein, which comprises administering an effective amount of the benzene derivative according to any of claims 12 to 17 or a pharmaceutically acceptable salt thereof.

30. A method of treating a disease associated with an Hsp90 family protein or a protein to which an Hsp90 family protein is bound (Hsp90 client protein), which comprises administering an effective amount of the benzene derivative according to any of claims 12 to 17 or a prodrug thereof, or a pharmaceutically acceptable salt thereof.

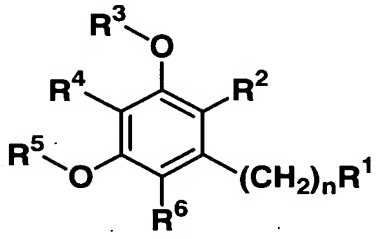
31. A method of treating a disease associated with an Hsp90 family protein or a protein to which an Hsp90 family protein is bound (Hsp90 client protein), which comprises administering an effective amount of the benzene derivative according to any of claims 12 to 17 or a pharmaceutically acceptable salt thereof.

32. A method of treating malignant tumors, which comprises administering an effective amount of the benzene derivative according to any of claims 12 to 17 or a prodrug

thereof, or a pharmaceutically acceptable salt thereof.

33. A method of treating malignant tumors, which comprises administering an effective amount of the benzene derivative according to any of claims 12 to 17 or a pharmaceutically acceptable salt thereof.

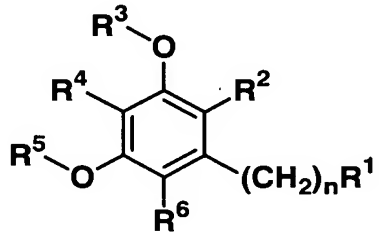
34. Use of a benzene derivative represented by general formula (I):



(I)

(wherein n, R^1, R^2, R^3, R^4, R^5 and R^6 have the same meanings as those defined above, respectively) or a prodrug thereof, or a pharmaceutically acceptable salt thereof for the manufacture of a heat shock protein 90 (Hsp90) family protein inhibitor.

35. Use of a benzene derivative represented by general formula (I):



(I)

(wherein n, R^1, R^2, R^3, R^4, R^5 and R^6 have the same meanings

as those defined above, respectively) or a pharmaceutically acceptable salt thereof for the manufacture of a heat shock protein 90 (Hsp90) family protein inhibitor.

36. Use of the benzene derivative according to any of claims 12 to 17 or a prodrug thereof, or a pharmaceutically acceptable salt thereof for the manufacture of an Hsp90 family protein inhibitor.

37. Use of the benzene derivative according to any of claims 12 to 17 or a pharmaceutically acceptable salt thereof for the manufacture of an Hsp90 family protein inhibitor.

38. Use of the benzene derivative according to any one of claims 12 to 17 or a prodrug thereof, or a pharmaceutically acceptable salt thereof for the manufacture of a therapeutic agent for diseases associated with an Hsp90 family protein or a protein to which an Hsp90 family protein is bound (Hsp90 client protein).

39. Use of the benzene derivative according to any one of claims 12 to 17 or a pharmaceutically acceptable salt thereof for the manufacture of a therapeutic agent for diseases associated with an Hsp90 family protein or a protein to which an Hsp90 family protein is bound (Hsp90 client protein).

40. Use of the benzene derivative according to any one of claims 12 to 17 or a prodrug thereof, or a

pharmaceutically acceptable salt thereof for the manufacture of an anti-tumor agent.

41. Use of the benzene derivative according to any one of claims 12 to 17 or a pharmaceutically acceptable salt thereof for the manufacture of an anti-tumor agent.